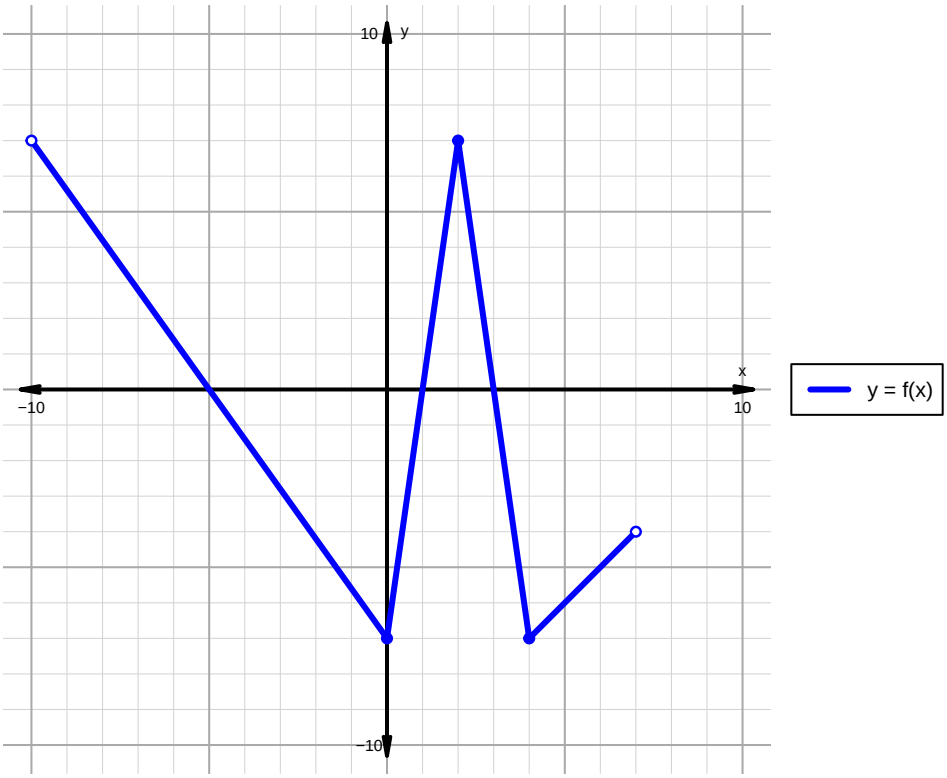
Name: Date:

Intervals, Transformations, and Slope Solution (version 164)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-5)\cup(1,3)$
Negative	$(-5,1)\cup(3,7)$
Increasing	$(0,2)\cup(4,7)$
Decreasing	$(-10,0)\cup(2,4)$
Domain	$(-10,7)$
Range	$(-7,7)$

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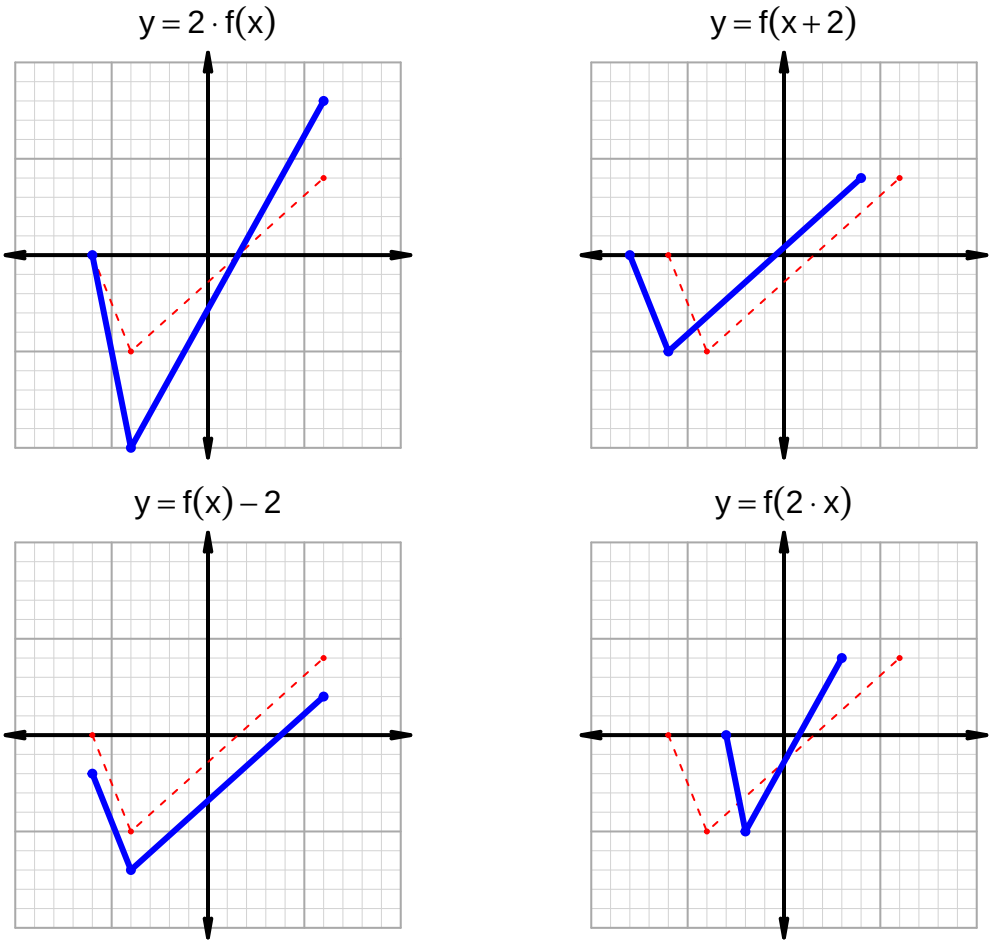
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 17$ and $x_2 = 52$. Express your answer as a reduced fraction.

x	$g(x)$
17	27
27	52
42	17
52	42

$\frac{g(52)-g(17)}{52-17} = \frac{42-27}{52-17} = \frac{15}{35}$

The greatest common factor of 15 and 35 is 5. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{7}$$